

# 8541

(41504)

# 8541

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

**DESCRIPTIVE REPORT**

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Type of Survey ~~Planimetric~~ Air-Photographic

Field No. \_\_\_\_\_ Office No. T-8541

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LOCALITY

State Virginia

General locality Potomac River

Locality Dahlgren-Machadoc and Williams Cr.

DATE OF PHOTOS { 44C-3044 To 3110 inc. 8-13-44  
6V-49 To 108 inc. 11-24-43

1944

CHIEF OF PARTY

R. W. Knox, Chief of Surveys Br.

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LIBRARY & ARCHIVES

DATE June 27-1947

## DATA RECORD

T-8541

Quadrangle (II): None Project No. (II): CS 311

Field Office: Wash. Office Chief of Party: R. W. Knox,  
Chief, Surveys BrCompilation Office: Wash. Chief of Party: R. W. Knox,  
Chief, Surveys Br.Instructions dated (II III): ~~Copy filed in Descriptive~~  
No written instructions ~~Report No. T-~~ (VI)Completed ~~survey received~~ in office: Oct., 1944

Reported to Nautical Chart Section: 1/26/45

Reviewed: 4/13/45 Applied to chart No. Date:

Redrafting Completed: 6/27/46

Registered: 6/47 Published:

Compilation Scale: 1:10,000 Published Scale:

Scale Factor (III): 1.00

Geographic Datum (III): N.A. 1927 Datum Plane (III): Mean Sea  
Level

Reference Station (III): Shell 2, 1934

Lat.:  $38^{\circ}20'12.882''$  ( $397.2\text{ m.}$ ) Long.:  $77^{\circ}00'54.990''$  ( $1335.5\text{ m.}$ ) Adjusted  
~~Unadjusted~~

State Plane Coordinates (VI): Virginia - North Zone

X = 2, 425, 854.28

Y = 247, 518.38

Military Grid Zone (VI)

PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
44C-3044 to 44C-3110	8-13-44	1030	1:9662 (approx.)	0.4' above M.L.W.
6V99 to 6V108	11-24-43	Photographs purchased from War Dept.		

Tide from (III): 0.4' above M.L.W.

Mean Range: 1.4 ft.

Spring Range: 1.6 ft.

Camera: (Kind or source) Single Lens

Field Inspection by: Gallen (Project 278-A) date: 1943

Field Edit by: <sup>HR.</sup> Cravat date: Fall 1944

Date of Mean High-Water Line Location (III): 8-13-44  
(date of photographs)

Projection and Grids ruled by (III) Ruling Machine date: 1944

" " " checked by: date:

Control plotted by: J. N. Henningsen date: Aug. 1944

Control checked by: D. L. Greene date: Aug. 1944

Radial Plot by: Harvey F. Nelson - date: Sept. 1944  
R. J. Tallman

Detailed by: R. J. Tallman date: Sept. 1944  
A. LaFave

Reviewed in compilation office by: K. N. Maki date:

Elevations on Field Edit Sheet checked by: None date:

DESCRIPTIVE REPORT T-8541

This sheet was compiled in the Washington Office at the request of the Nautical Chart Section. It is to be used for the compilation of a new chart requested by the Navy Department.

Most of the existing horizontal control had been identified by field inspection on Project 278A, and thus was available for the radial plot of T-8541.

A contemporary hydrographic survey was made for the new nautical chart. The plot of T-8541 was not completed at the time of the hydrographic survey. However, shoreline was traced from a rectified nine lens photograph and furnished to the hydrographic party for use on the boat sheet.

Hydrographic control was located by triangulation and graphic control surveys. The hydrographic party also made a limited field inspection of the 1944 single lens photographs used for detailing this sheet.

The graphic control survey furnished additional ground control for this radial plot.

All permanent and recoverable details on the graphic control survey have been transferred to the manuscript T-8541.

26. Control:

The control plotted consists of thirteen (13) U. S. Coast and Geodetic Survey triangulation stations

The following eleven (11) control stations are within the detail limits of this Map Drawing:

Persimmon 3, 1938  
Ashton, 1941  
Shell 2, 1934  
Dahlgren Water Tank, 1941  
Dahlgren Proving Ground Airway Beacon, 1934  
Dahlgren Steel Tower, 1941  
Boabors Point Tower, 1944  
Pumpkin, 1929, (Witness Mark used)  
Boundary No. 29, 1934  
Boundary No. 28, 1929  
Owens, 1934

The two stations listed below are outside the limits of this sheet but are included on a "dog ear."

Mathias Point Shoal Lighthouse, 1901  
Club Accentric, 1934

The twenty-four (24 secondary points scaled from a nine-lens radial plot at a scale of 1:19400) were used as additional control for the single lens radial plot (See section 27), and nine stations taken from the graphic control survey.

27. Radial Plot:

An individual plot was laid for the area of the Map Drawing in September, 1944 by the usual radial method. The plot was laid with transparent acetate templat<sup>s</sup> made from single lens photographs. The area was covered in three parallel strips with one short diagonal for tie. The first two strips had a very small side lap. Between the second and third strips there existed a gap of approximately 400 meters on the ground. The only tie between these two strips was the diagonal flight of which the last two photographs had water centers.

Because of this difficulty with a gap and the insufficient overlap, a plot of the same area was laid with older nine lens photographs at a scale of 1:19,400 to locate secondary points for additional control of the single lens plot. This nine lens plot did not lay well because of negative and paper distortion. Therefore only nine of the twenty-four transferred control points were held in the single lens plot. Points held were 1, 4, 5, 7, 8, 14, 15, 20, and 24. (These numbers are shown on the office photographs.)

The graphic control survey of Upper Machodox Creek and Williams Creek provided eight additional control stations with their locations picked on a set of field prints. All of these stations held within the required accuracy.

With a combination of 13 triangulation stations, 1 witness mark of a triangulation station, nine stations from the graphic control survey, and 9 secondary points from the nine lens plot, a satisfactory amount of control was obtained. However, the spacing of flights caused much difficulty in laying the plot. Most of the control is concentrated along the shorelines of the Potomac River, Upper Machadox Creek and Williams Creek and in the immediate vicinity of Dahlgren. Any errors of plotting should be along the westerly and southerly edges of the plot at a considerable distance from any control point.

The positions of the principal points (photograph centers), which were determined by resection, have been shown on the glossy side of the map drawing with large blue ink circles accompanied by the photograph numbers. Since there was no appreciable tilt in any of the photographs, the photograph centers were used as the chief ray centers for all radials.

## List of Triangulation Stations

DAHLGREN CS 311

CONTROL: (Plotting notes)

Persimmon 3, 1928	38 22' 26.386" (813.6m) 77 00' 46.328" (1124.6m)
✓ Dahlgren Water Tank, 1941 (restricted)	38 20' 05.687" (175.3m) 77 02' 41.403" (1005.6 m)
✓ Shell 2, 1934	38 20' 12.882" (397.2 m) 77 00' 54.990" (1335.5 m)
✓ Dahlgren Proving Ground Airway Beacon, 1934	38 19' 39.920" (1230.9 m) 77 01' 45.843" (1113.5 m)
✓ Dahlgren Steel Tower, 1941 (restricted)	38 19' 36.55" (1126.9 m) 77 01' 32.88 (798.7 m)
✓ Dahlgren Proving Ground Checked Water Tank, 1934	38 19' 15.287" (471.3 m) 77 02' 11.526" (280.0 m)
<u>GP p.688</u> Baber Point Tower, 1944 (restricted, observation by Naval Proving Ground)	38 18' 33.118" (1021.1 m) 77 01' 48.794" (1185.5 m)
✓ Owens, 1934	38 16' 29.436" (907.6 m) 77 03' 39.543" (961.3 m)
✓ Boundary 29, 1929	38 16' 47.970" (1479.1 m) 77 00' 05.960" (144.9m)
✓ Boundary 28, 1929	38 16' 26.351" (812.5 m) 76 59' 25.119" (610.6 m)
✓ Ashton, 1941	38 21' 13.295" (409.9 m) 77 04' 34.088" (827.7 m)
✓ Pumpkin Witness Mark, 1929	

28. Detailing:

The topographic features shown hereon have been detailed partly from U. S. Coast and Geodetic Survey single lens photographs and partly from U. S. Army Engineers photographs flown by the U. S. Army Air Corps under 16 Photo Domestic Unit, Project 481, Virginia and Maryland, November 24, 1943, (specific numbers of the photographs may be found on page 2 of the Data Record incorporated in this report). Several of the single lens photographs of this bureau were supplemented by field inspection notes noted on duplicate copies in 1944. Symbolization is in accordance with the recommended topographic symbols except in the case of the outlined wooded area. This latter is noted in green acetate ink.

The water area of the map drawing consists of that portion of the west shore of the Potomac River immediately adjacent to Machadoc Creek and from latitude  $38^{\circ}16'$  to latitude  $38^{\circ}22'$ ; all of that portion of Machadoc Creek which is navigable. Also included are several smaller creeks, Rosier Creek, Williams Creek, Gambo Creek, and some which are not designated by name on the compilation. The interior consists of wooded areas (principally deciduous and pine), small farms, marshes especially along the several creeks, and a number of small towns and villages. The largest town, Dahlgren, is adjacent to that area now utilized by the U. S. Naval Proving Ground.

The photographic coverage was not adequate because of insufficient overlap between strips and a gap between two strips which necessitated the use of several of the above mentioned army photographs. The difference in scale of these latter photographs, 1:20,000, and the inability to correctly orientate them may present discrepancies in detail. However, this is true only of a small portion of the interior, as a diagonal flight facilitated detailing of all shoreline and its immediate areas. The general lack of sufficient overlap presented the problem of detailing from the outer portions of photographs, especially along the gap and along the north, west, and south extremities of the compilation.

The plotted positions of minor detail points have been shown on the flossy side of the map drawing with small purple ink circles. Several of the secondary points taken from the 1:20,000 nine lens plot were relatively weak and are shown with green circles.

All buildings which were visible on the photographs have been shown. All main roads are shown by a single red line. In some areas trails and cleared and graded roads were not definite enough to include. Classification of roads and trails will be verified during field inspection. One railroad (government) gives access to the Proving Ground and the



several working spurs are shown as accurately as possible from stereoscopic observation. By pantograph a schematic sketch to scale of 1" = 20' of new pier construction in the vicinity of Boarbors Point was transferred to the Map Drawing.

30. Mean High-Water Line:

The mean high water line (firm ground) has been shown with a full heavy weight black acid ink line, the center of which is considered by this office to be the true position. The outer limits of marsh areas bordering the mean high water line have been shown with a full light weight acid ink line and the included area shown with the conventional marsh symbol. The light weight line is not the mean high water line; it is rather the indication of the outer limits of low wet land visible on the photographs.

32. Details offshore from the High-Water Line:

A sand bar off the shore at Boarbors Point has been shown by the usual symbol accompanied by a pertinent note. Grass in water was detailed from photographs and from field inspection notes.

33. Wharves and Shoreline Structures:

All piers, wharves, jetties, and piles which were either visible on the photographs or located on the hydrographic boat sheet have been shown on the compilation.

34. Landmarks, Fixed Aids to Navigation, and Aeronautical Aids:

Land marks and fixed aids to navigation were recommended by the hydrographic party and located by the graphic control survey. Lists of positions on Form 567 have been extracted from the graphic control survey report and included in this report. These have been reported to the Nautical Chart Section as a separate list. *See Chart letter 109 (1945)*

35. Hydrographic Control:

Hydrographic control was located by the graphic control survey.

All permanent details have been transferred from the graphic control survey to this manuscript. These include nine re-  
coverable topographic stations. No Form 524 descriptions have been prepared for these stations since no field notes were prepared for that purpose.

## FIELD EDIT REPORT

Project CS-311

Dahlgren, Va.

### 1. Description of Area:

The area included in this report is in the vicinity of the Dahlgren Navy Proving Ground at Dahlgren, Virginia. The proving ground lies south of the Potomac River and east of U. S. Highway No. 301, and is about two miles southeast of the Potomac River Bridge.

About 22 square miles of this area is land, the remaining area being comprised of portions of the Machadoc and Potomac Rivers. On the south side of the Machadoc River and the 19th parallel, about 60% of the land is covered with a wood or brush growth. From north of the Machadoc River and east of Williams Creek to the northern boundary of the area is the contonment section of the proving grounds. Here is the housing area, air-field, administrative offices, docks and railroad facilities, and gun batteries.

East of Williams Creek and south of the Machadoc River are agricultural and wood lands. The land in this area which is now part of the naval reservation is undergoing constant change with regards to culture. New roads and buildings are under construction and wooded areas are being cleared.

### 2. Completeness of Field Inspection and Edit:

The immediate shore line was field inspected by a boat party in charge of Commander Thos. B. Reed. The inspection of the inshore area was a combination of field inspection and field edit. Culture that was omitted or found to be in error was corrected on the manuscript by use of the plane-table or other satisfactory means.

When a particular feature could best be shown by delineating it on the photograph, it was done and a circle in red ink was added on the manuscript showing the approximate location of the correction and the photo index number on which it could be found. A list of photos referred to is as follows:

U.S.C. & G.S. Photos 3047, 3048, 3056, 3069, 3073,  
3082, 3093, 3103

and Army Photos 101 and 102.

3. - 5. Not applicable to this report.

6. Contours and Drainage:

Because of the additional field work required and because of the rough topography of this section, not all intermittent drainage is shown. All perennial drainage was added in the Washington Office and streams labeled "Probable Drainage" were checked in the field.

7. - 12. See report 6985 by Comdr. Thos. B. Reed.

13. Landing Fields and Aeronautical Aids:

The runways and hangars of the Dahlgren Naval Air Station are shown on this map. No attempt was made to make a detailed check within the limits of the airfield.

14. Road Classifications:

All roads have been classified as follows:

double full line, d.f.l.,	first class paved roads
double dashed line, d.d.l.,	narrow paved roads and good gravel roads
single dashed line, s.d.l.,	unimproved roads and farm roads
single dashed line, s.d.l.,	labeled trail, indicates trail

15. Bridges:

For future reference, bridges were classified according to instructions set forth in a letter from the Director, dated July 23, 1942.

There were no bridges over navigable waters.

16. Buildings and Structures:

The only buildings classified were churches and schools. Garages and small outbuildings were not shown. Only the house and largest barn of a group of farm buildings were shown. The barn was not shown unless it was at least as large as the house.

17. Boundary Monuments and Lines

Boundary lines of the proving grounds on the north side of the Machadoc River were taken from a map

in the office of the Bureau of Yards and Docks. This line is shown as only an approximate position. Lambert Projection Coordinates of the boundary corners may be obtained from the above mentioned office, c/o Lt. Comdr. Silverman.

The boundary line south of the Machadoc River is shown on a map furnished by the Ordinance Office. Due to its lack of accompanying detail, it is impossible to get even an approximate location on our map. At a later date, however, the coordinates of these boundary line corners will be available.

18. Geographic Names:

The source of geographic names on this map were the U.S.C. & G.S. Nautical Chart 558 and the Quadrangle Nanjemoy, published by the U. S. Engineers, Edition, 1944. There was no systematic investigation of geographic names. In addition to the names obtained from above sources, the following were added on field edit:

- ✓Potomac Beach P.O.
- ✓Tefotum P.O.
- ✓Little Ark Baptist Church

The local spelling of Barbors Point was Beabors Point.

19. - 25.

26. - 29. - See compilation report by R. J. Tallman and A. LaFave.

30. - 35 - See report by Thos. B. Reed.

36. - See item 13.

37. - 43.

44. Comparison with Existing Topographic Quadrangles: This map was compared with a quadrangle made by the U. S. Engineers, Edition 1942. One of the discrepancies noticed was a change in the marshland areas between the main battery and machine-gun battery. New roads and buildings have since been added due to the constant expansion of the proving ground.

LW(84)

45. Comparison With Nautical Charts:

See report by Thos. B. Reed.

46. Methods of Making Field Edit:

See item 2.

47. Adequacy of Compilation:

The compilation is believed to be complete and accurate as corrected by field edit party.

The compilers requested a check along the shore line in three different places where photos seemed not to agree with the boat sheet. The shore line that was plotted on the manuscript was the one determined by the boat party. It was found to be satisfactory.

The method used in checking this shore line was by the use of stadia and plane-table. The plane-table was located by a three-point-intersection.

48. As yet, no horizontal nor vertical accuracy tests have been run in this area.

H. R. Cravat

all field edit corrections have been  
applied to the manuscript

✓ B. J. Jones

L. C. Landy

# GEOGRAPHIC NAMES

Survey No. T-8541

1	Name on Survey	Source										
		A	B	C	D	E	F	G	H	K		
		On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
✓	<u>Virginia</u>									USGB	1	
✓	<u>Potomac River</u>									"	2	
✓	<u>U.S. Naval Proving Ground</u>										3	
✓	<u>U.S. No. 301</u>										4	
✓	<u>Va. Nos. 205, 206</u>										5	
✓	<u>Va. Nos. 618, 619, 620, 615, 616, 621, <del>624</del>, 636, 604, 613, 614</u>										6	
✓	<u>U.S. Government Railway</u> - RR										7	
✓	<u>Potomac River Bridge</u>										8	
											9	
											10	
✓	<u>Bluff Point</u>										11	
✓	<u>Potomac Beach</u>										12	
✓	<u>Wilkerson Creek</u>										13	
✓	<u>Wilkerson Wharf</u>										14	
✓	<u>Goldman Creek</u>										15	
✓	<u>Rosier Creek</u>										16	
✓	<u>King George Point</u>									(main point)	17	
✓	<u>Stony Point</u>										18	
✓	<u>Black Marsh</u>									(extremity of narrow point)	18	
✓	<u>Pumpkin Neck</u>										19	
✓	<u>Nindes Store</u>										20	
✓	<u>Madison School</u>										21	
✓	<u>Tetotum</u>										22	
✓	<u>Good Hope Church</u>										23	
	<u>Poplar Neck Creek</u>									(left limits)	24	
	<u>Milford Landing</u>										25	
✓	<u>Rollins Landing</u>										26	
✓	<u>Long Point</u>										27	

GEOGRAPHIC NAMES

Survey No.

T-8541

2	Name on Survey	A	B	C	D	E	F	G	H	K	
		On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
✓	<u>Little Ferry Landing</u>										1
✓	<u>Upper Machodoc Creek</u>			(not Machodoc Creek)						USGB	2
✓	<u>Beabors Point</u>			(not Beabors Pt)							3
✓	<u>Williams Creek</u>										4
✓	<u>Gambo Creek</u>										5
✓	<u>Deep Creek</u>										6
✓	<u>Dahlgren</u>										7
✓	<u>Howland Point</u>										8
✓	<u>Brick House Landings Wharf</u>										9
✓	<u>Barrys Wharf (ruins)</u>										
✓	<u>Hoge Wharf</u>										10
✓	<u>Wood Island</u>										11
✓	<u>Hoges</u>										
✓	<u>Coast</u>										12
✓	<u>Ashton</u>										13
✓	<u>Little Ark Church</u>										14
✓	<u>Mathias Point Neck</u>										15
											16
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											26
											27

Names underlined in red approved  
by L. Heck on 7/12/46

KTR  
711



HYDROGRAPHIC OFFICE  
WASHINGTON 25, D. C.



IN REPLY ADDRESS NOT THE SIGNER  
OF THIS LETTER, BUT  
HYDROGRAPHIC OFFICE  
NAVY DEPARTMENT  
WASHINGTON 25, D. C.

REFER TO NO.

Op25-C1-rk  
Ser. 14621P25

16 April 1947

From: The Hydrographer.  
To : Director, U.S. Coast and Geodetic Survey.  
Subj: Planimetric Map T-8541, Dahlgren and vicinity.  
Ref : (a) C. & G.S. ltr. 711-RCR of 19 Nov. 1946.  
(b) C. & G.S. ltr. 711-RCR of 14 March 1947.  
Encl: (A) Copy of Map T-8541 (HW).

1. The copy of map T-8541 forwarded to this Office under reference (a) has been returned from the Naval authorities concerned, and is forwarded herewith with the required deletions indicated thereon. \*

*G. F. Kennedy*  
G. F. Kennedy,  
Commander, U.S.N.R.,  
By direction.

*Copy of map showing deletions requested by Navy is filed with the manuscript. Deletions consisted mostly of names of prominent objects. AGJ*

*37 copies of map T-8541 prepared. Distribution Bureau will forward to the Distribution Unit. 11-13-47*

*AGJ*



Division of Photogrammetry

Review Report of

Planimetric Map T-8541

Radial Plot.

No attempt was made to check the radial plot during the review of T-8541.

Detailing.

Considerable change was necessary in the detailing of T-8541. The northern limits of the sheet were revised, extending the detail north of the Gov't. Railroad and U. S. Hwy. #301 to the new neat line. Nearly all the roads have been reclassified to conform with the standard planimetric symbols. Many additional roads have been shown.

Extensive changes were made on the shoreline on the east bank of Williams Creek. A good size marsh (the first one north of Machadoc River) on the eastern shore of Williams Creek was not included in the compilation and does not appear on Chart 556 to which this sheet has been applied. The position of Gambo Creek and the surrounding marsh has been moved north of Lat.  $38^{\circ}21'$ . A former bombing target located in Machadoc River was cut in during review.

Wooded areas throughout the sheet were classified during the compilation by various systems, such as dense woods, class A, heavy woods, dense trees, these systems have been combined into one.

The photo coverage for detailing was insufficient, especially in the east-west direction. The central and eastern flights had a gap between them except in the area about the Machadoc River where a diagonal flight supplied coverage. Photos covering the area of the gap were purchased from the War Department.

Mean High Water Line.

Some changes have been made in the M.H.W.L. on the east shore of Williams Creek and the shoals off Beabor Point have been changed to sand bars.

Comparison with Contemporary Hydrographic Surveys.

H-6985      1:10,000      1944

\* A power line crossing Williams Creek at approximate Lat. 38°20' was noted on the hydro. sheet, this cannot be seen on the photos and is not shown on T-8541. The eastern shore of Williams Creek appeared on H-6985 to be the same as the original compilation, however, since there was very little change in the offshore limits of vegetation the difference in the H.W.L. was probably not noted during the hydrographic survey. Off Beabor Point, a shoal area was designated on the compilation. Field inspection data indicate that the area is above M.H.W. and this is verified on H-6985. Accordingly, it was corrected on T-8541.

Comparison with Previous Topographic Surveys.

T-860      1:20,000      1862  
T-2635      1:20,000      1902,03

The above surveys are superseded in the area common with T-8541.

T-8114 (1943) was used for junction. It was quite satisfactory.

Comparison with Nautical Charts.

556      1:20,000      Jan. 1945  
558      1:40,000      Aug. 1935  
559      1:40,000      July 1935

The reviewer recommends that the changes mentioned under the paragraph M.H.W.L. be applied to Chart #556.

Comparison with Quadrangles.

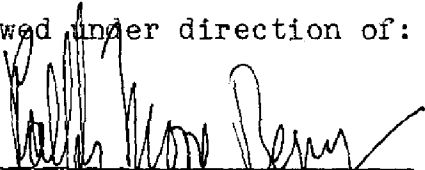
U.S.E., 15', Nanjemay, Va.-Md., 1:62,500, 1944

No conflict of detail. T-8541 is of larger scale and supersedes for position of common detail.

Reviewed by:

Reviewed under direction of:

  
Harold R. Brooks

  
Ralph Moore Berry

4/13/45

APPROVED BY:

*Bojones 5/47*

Technical Assistant to the  
Chief, Div. of Photogrammetry

*A. Pittelung*

Chief, Nautical Chart Br.  
Division of Charts

*K.T. Adams*

Chief, Div. of Photogrammetry

*C. K. Green*

Chief, Div. of Coastal  
Surveys